MIKAS and NIKAS springs photo gallery

A S I A

Afghanistan, China, Georgia, India, Indonesia, Iran, Iraq, Israel, Laos, Lebanon, Jordan, Malaysia, Myanmar, State of Palestine, Pakistan, Philippines, South Korea, Thailand, Türkiye, Viet Nam

Afghanistan



MIKAS – Darrah-e-Zang spring



Darrah-e-Zang - the main outlet from the cave



Darrah-e-Zang - High water season



Darrah-e-Zang - Low water season

China

MIKAS – Baotu spring



Photo of the Baotu spring (source: http://www.jinan.gov.cn/art/2022/3/9/art_135_4942367.html)

MIKAS – Ling Shui



Lingshui springs group in SW China. The view of the nine spring outlets and the Wuming River.

MIKAS – Poxin



Jiangzou Natural Bridge (75.5 m in height, 144 m in span)





Karst spring's pond and window of the Poxin underground river outlet

MIKAS – Daxiaojing underground river system



Google Earth map with pinned outlet of underground river



Outlet of Xiaojing underground river



Outlet of Dajing underground river

Outlet of Daxiaojing underground river (Photo Shouyang HE)



Underground river for tourism and recreation (Photo Shouyang HE)

Georgia

MIKAS – Deidzakhi



Deidzakhi group of springs flow Source: https://primetime.ge/



Figure A3. Deidzakhi outlets during contrasting hydrological conditions (reproduced from Lezhava et al., 2022, Fig. 11).



Figure A4. Deidzakhi during a major flood event; photograph credited in the monograph to Roman Tolordava (Lezhava et al., 2022, Fig. 14).

During intense rainfall the underground water level may rise by 15–25 m, activating higher former siphon passages and numerous fractures. Reported flood discharge commonly reaches 20–30 m^3/s and may occasionally exceed 50 m^3/s.

MIKAS – Mchishta



Mchishta springflow (Source: https://madloba.info/en/blog/nature-of-georgia/mchishta/)



Mchishta springflow (source: Google Earth Pro)

India



MIKAS – Achabalnag

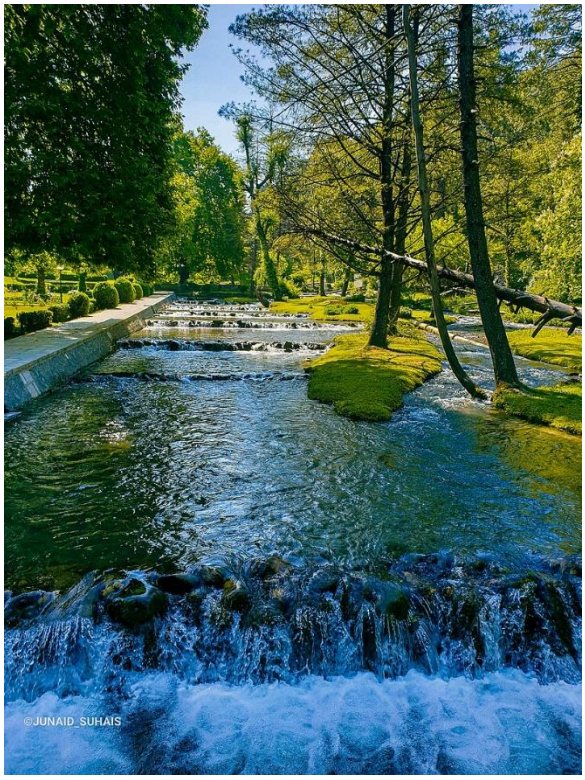


Achabalnag spring and Mughal garden (source: en.wikipedia.org/wiki/Achabal_Gardens)

MIKAS – Kokernag



Photo of the Kokernag spring surroundings (source: https://en.wikipedia.org/wiki/Kokernag)



Kokernag spring irrigates botanical garden (source: https://en.wikipedia.org/wiki/Kokernag)

MIKAS - Verinag



Photo of the Verinag spring and pool (source: https://en.wikipedia.org/wiki/Verinag)





Photo of the Verinag spring and inscription in Persian (source: https://en.wikipedia.org/wiki/Verinag)

NIKAS-Andernag



Photo of the Andernag spring (source: Google Earth)

NIKAS - Martandnag



Photo of the Martandnag spring (source: https://www.kashmironline.com/blog/top-10-springs-in-kashmir/)

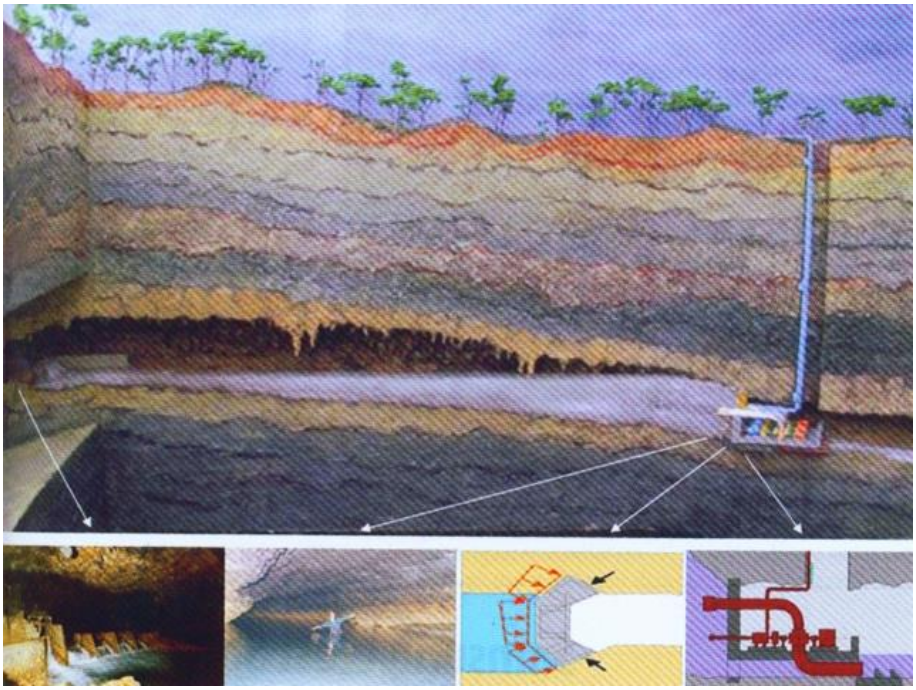
Indonesia



MIKAS - Bribin spring (Baron aquifer)



Bribin underground dam



Bribin - Dam and piping scheme underground river

Iran



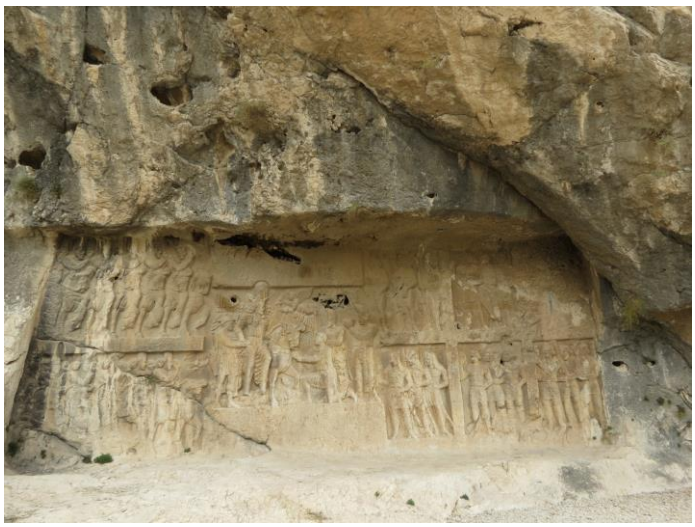
MIKAS – Sasan spring



Sasan spring (Photo by Zoran Stevanović)



Entrance into famous Shapour cave in Sasan basin (Photo by Zoran Stevanović)



The famous Sassanid rock relief close to Sasan spring showing military campaign (Photo by Zoran Stevanović)

MIKAS – Sheshpeer spring



Sheshpeer Spring issuing from Sarvak formation (Photo by Zoran Stevanović)



Barm Firooz anticline – Sheshpeer catchment area (Photo by Zoran Stevanović)

IRAQ



MIKAS – Bekhal



Bekhal spring in the low-water season

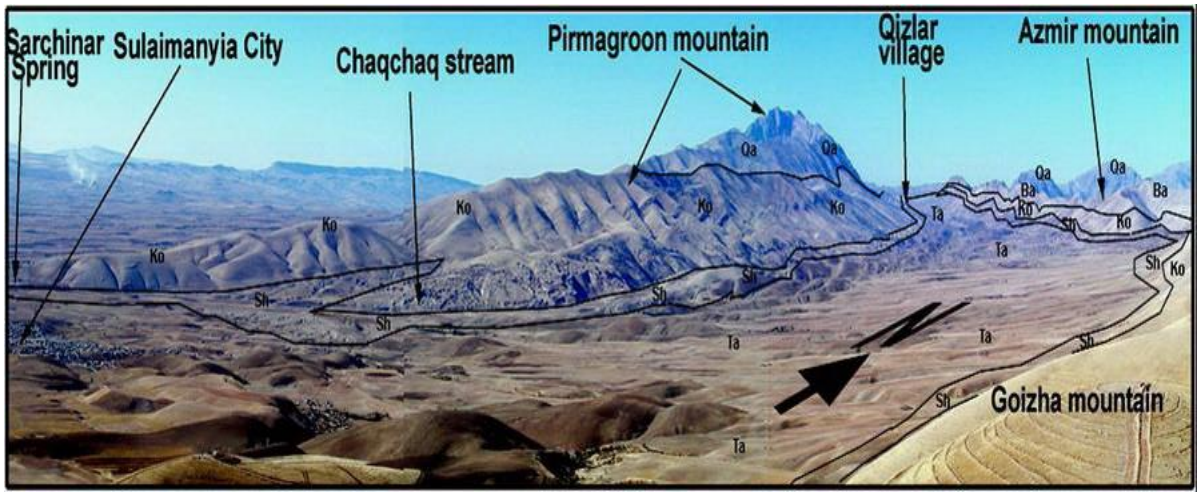


Bekhal spring in the high-water season



Gali Ali beg water fall close to Bekhal – Khalifan. The famous national site used as a motif at one of Iraqi bills

MIKAS – Sarchinar



Cross section of Pura Magroon Mt - Sarchinar (after Salahaldin Saed Ali, 2008)



Pumping station of the ascending spring Sarchinar (photo: Z. Stevanović)



Spring overflow in Sarchinar resort area (Photo: S.S. Ali)

MIKAS - Zulum

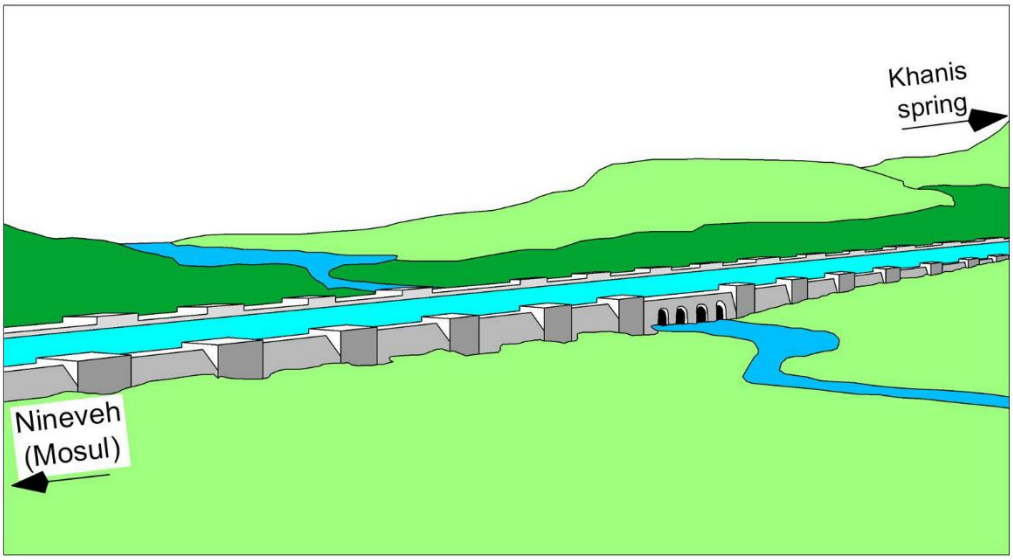


Zulum spring water issuing under the large cliff (photo Z.Stevanović)



Zulum spring in the wintertime (source: https://www.khurmal.com/2023/02/zalm.html)

MIKAS – Khanis

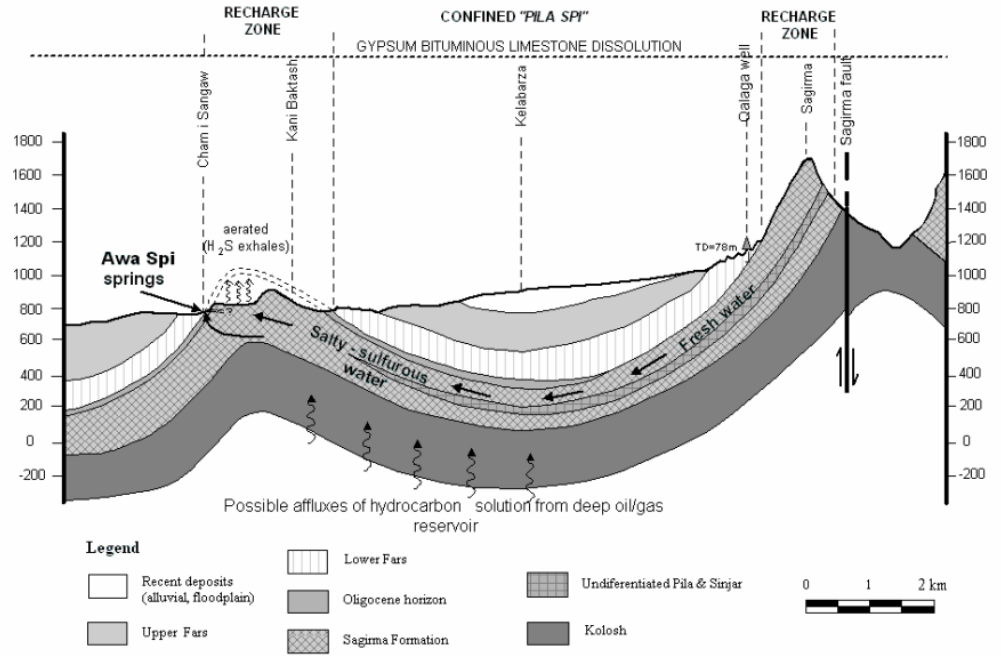


Reconstruction of Khanis aqueduct (after Jacobsen & Lloyd, 1935, redrawn)



Monumental cliff with cuneiform inscriptions above Khanis spring (courtesy of Alec Holm)

NIKAS – Awa Spi



Hydrogeological conceptual model of Awa Spi spring genesis (after Iurkiewicz A.)



Ascending Awa Spi spring and its milky to light blue water (photo A. Iurkiewicz)



Deep crevasse / pothole expanded along long fault near Awa Spi (photo A. Iurkiewicz)



Awa Spi discharge point (photo Z. Stevanović)

NIKAS – Saruchawa



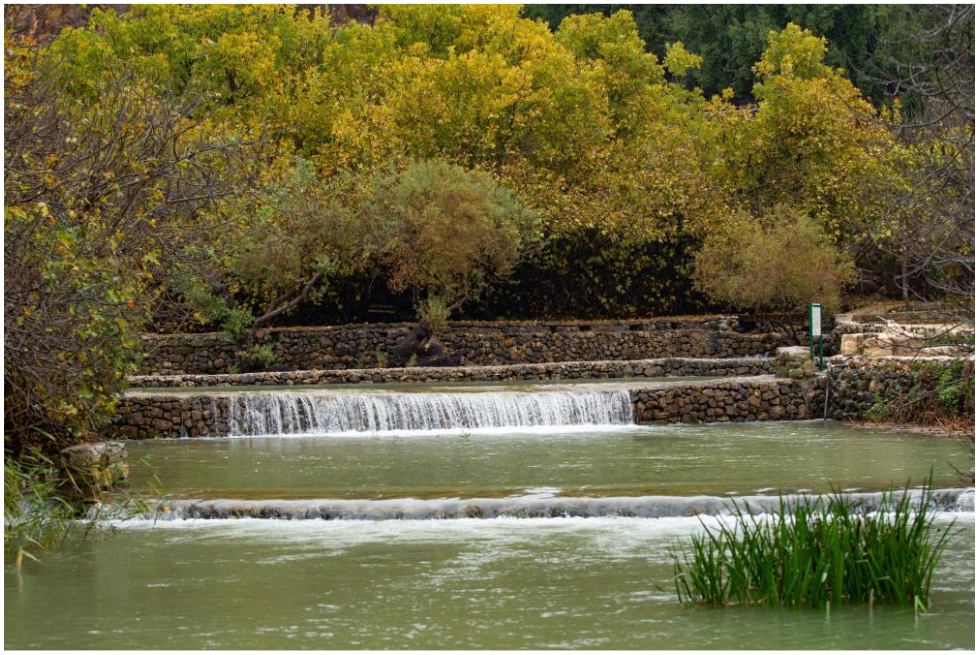
Saruchawa spring and pumping station during drought season of the year 2000 (photo Z.Stevanović)



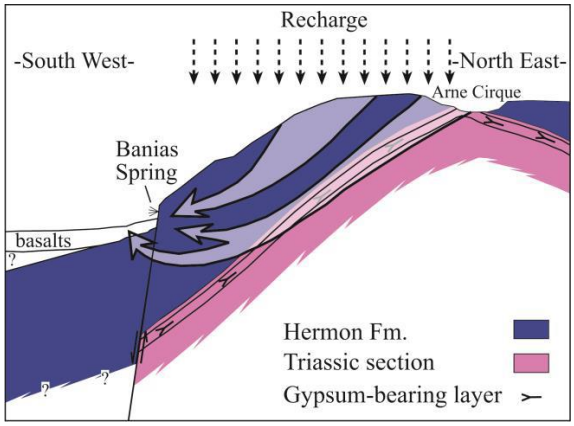
Saruchawa springflow, draining Mackok Mt. (photo A. Iurkiewicz)

Israel

MIKAS – Banias



Outlet point of the Banias Spring (Photo by Doron Nissim, Israel Nature and Parks Authority)



Schematic water flow model in the southwestern part of Mt. Hermon towards the Banias Spring consisting of two components: a deeper flow flushing the Upper Triassic-Lower Jurassic rocks and a shallower flow that runs through the Jurassic Hermon Fm.

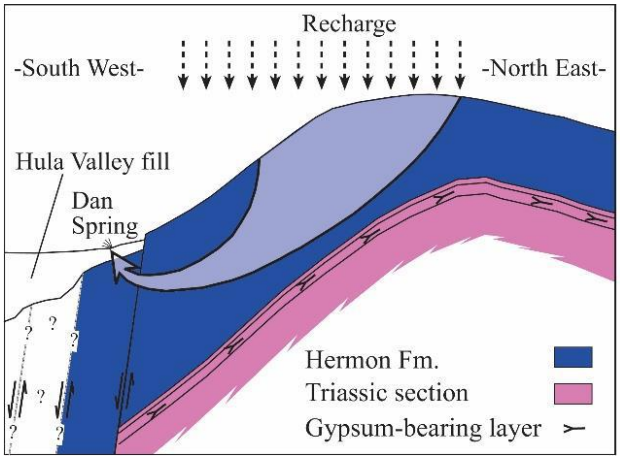


A waterfall down the spring in the Hermon (Banias) River (Photo by Doron Nissim, Israel Nature and Parks Authority)

MIKAS – Dan



The Dan stream (Photo by Doron Nissim, Israel Nature and Parks Authority). Mount Hermon on which the recharge to the spring is taking place, is visible in the background.

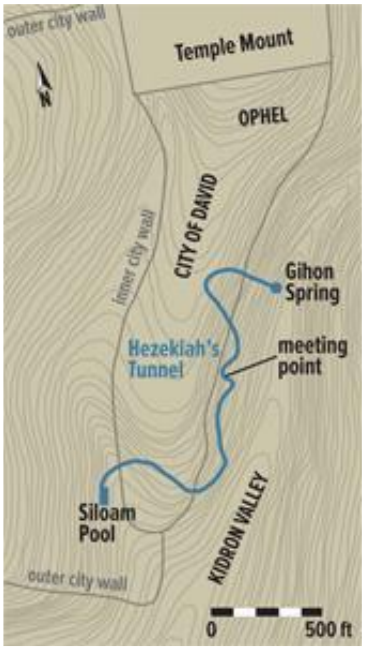


Schematic water flow model in the southwestern part of Mt. Hermon towards the Dan Spring

MIKAS – Gihon



The Siloam Tunnel (Photo by Dan Gill)

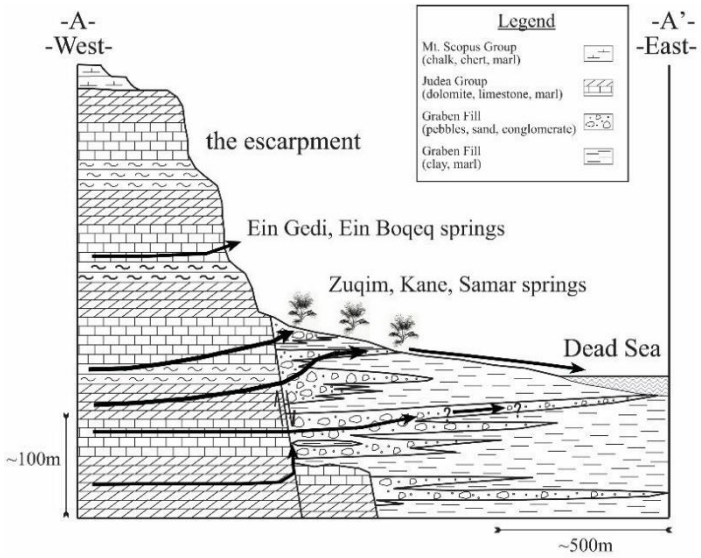


Location of Gihon and Siloam Tunnel (from Shanks, 2013)

NIKAS – Ein Gedi, Shulamit, David, and Arugot



The waterfall in Ein Gedi National Reserve (Photo by Nissim Keshet, Israel Nature and Parks Authority)



Schematic geological cross section showing the two flow paths in the Judea Group Aquifer towards the Dead Sea: the deep regional and shallow flow



An arid landscape of the eastern Judean desert showing the cliff in the Ein Gedi area above the Dead Sea coast (Photo by Nissim Keshet, Israel Nature, and Parks Authority)

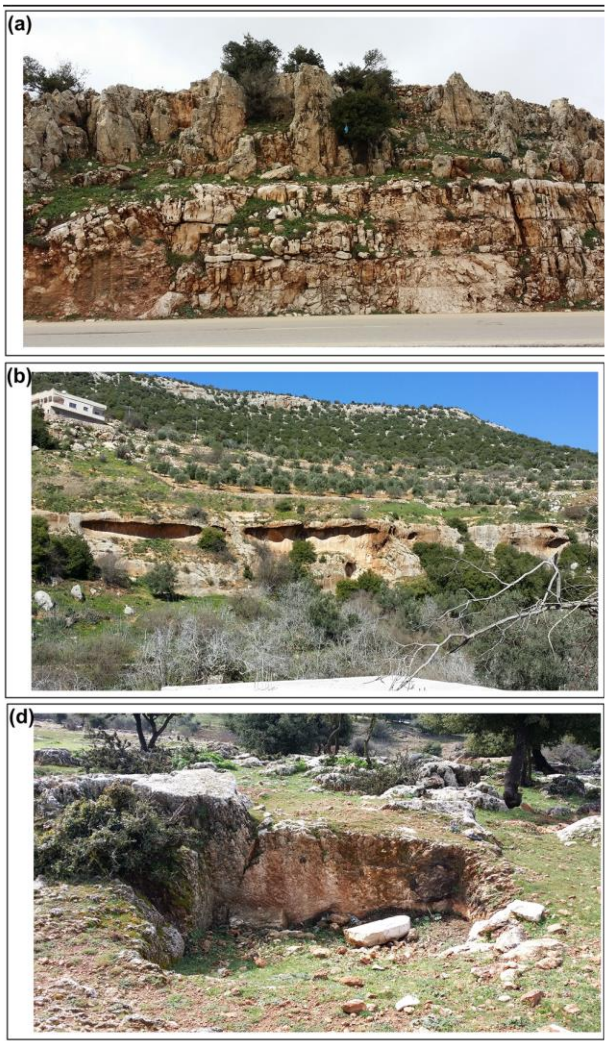
Jordan



MIKAS – Tanour spring



Tanour spring (photo by Ibraheem Hamdan, 2016)



a. Epikarst zone and karst pavement, b. open conduits due to the weathering process, d. doline (from Hamdan et al., 2020)

Laos



MIKAS – Xe Bang Fai Cave



Photo: 3021_Ban Laboy, is a photo of the catchment looking upstream from the Ban Laboy ford, just south of the southern boundary of Hin Nam No National Park (Photo by Paul Williams)



Photo: 3049_TXBF Resurgence , is the resurgence/spring of the Xe Bang Fai Cave (Photo by Paul Williams)



Photo: 3047_XBF Sandbank , is looking downstream from the cave resurgence at the pool, sandbank, and river (Photo by Paul Williams)

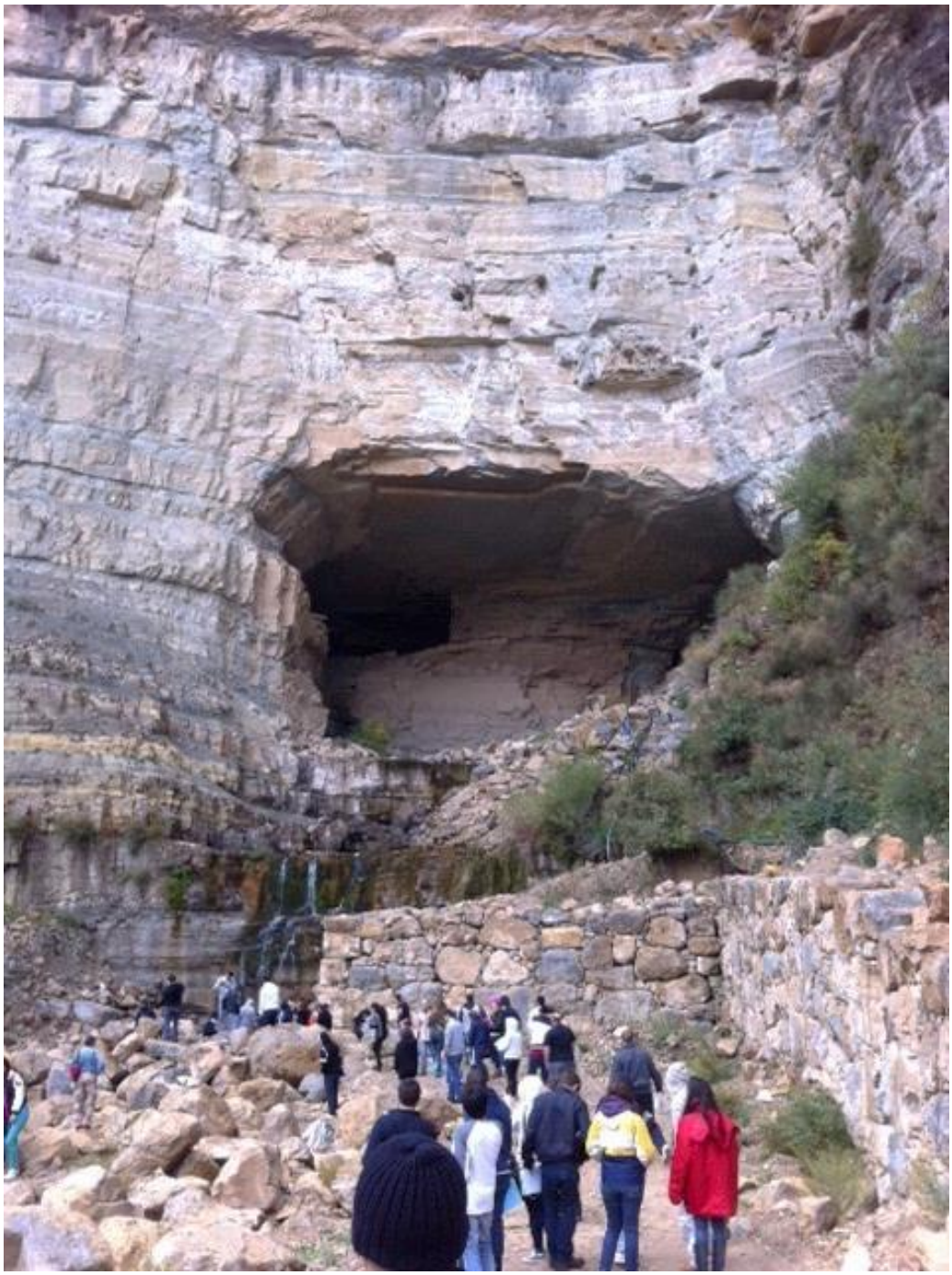
Lebanon



MIKAS - Afqa spring



Afqa Spring during high flow (May- July) (Photo courtesy of Joanna Doummar)



Afqa Spring during low-flow (August-February) depending on snow melt (Photo courtesy of Joanna Doummar)

MIKAS - Jeita spring



The original spring entrance (February, 2011) (Photo courtesy of Joanna Doummar)



The lower cave (Photo courtesy of Joanna Doummar)



The lower cave (Photo courtesy of Joanna Doummar)

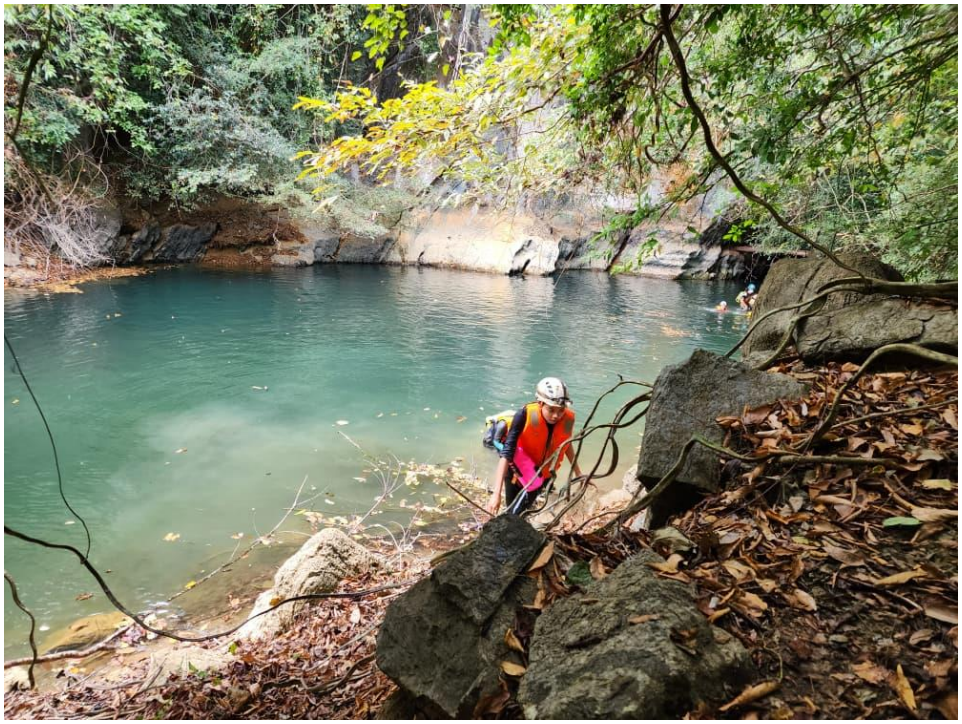
Malaysia



MIKAS – Sungai Pelarit



Sungai Pelarit floodgate supplying karst water to the Tima Tasoh Dam (photo by Ros Fatihah Muhammad)



The spring of one on the caves along the Nakawan Range (Photo by Ros Fatihah Muhammad)

Myanmar



MIKAS - Kwaing Ngant Spring Cave

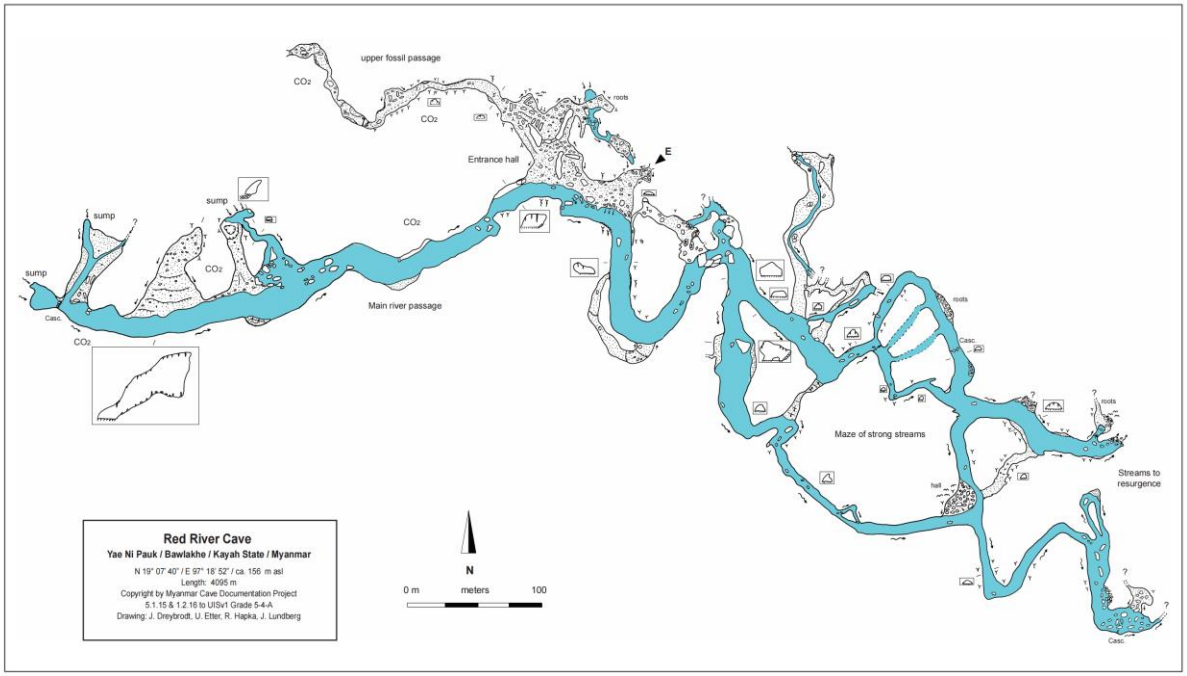


Entrance (photo by Chris Densham)



Major Passage Phruno Cave (photo by Phil Bence)

MIKAS - Yae Ni Paet Gu (Red River Cave)



Cave Map of Yae Ni Paet Gu (Red River Cave)



Main cave passage with underground river (Photo by Phil Bernce)



Major stream from spring / resurgence



Cave sink (photo by Phil Bence)

MIKAS - Pwe Kauk spring



Outlet of Pwe Kauk spring







Cascading waterfalls of Pwe Kauk spring https://myanmars.info/mandalay/pwe-kauk-waterfall.html

Pakistan



MIKAS – Lakhi Shah Saddar I



Laki Shah Saddar Overview



Laki Shah Saddar Spring (summer)

Philippines



MIKAS – Puerto Princesa



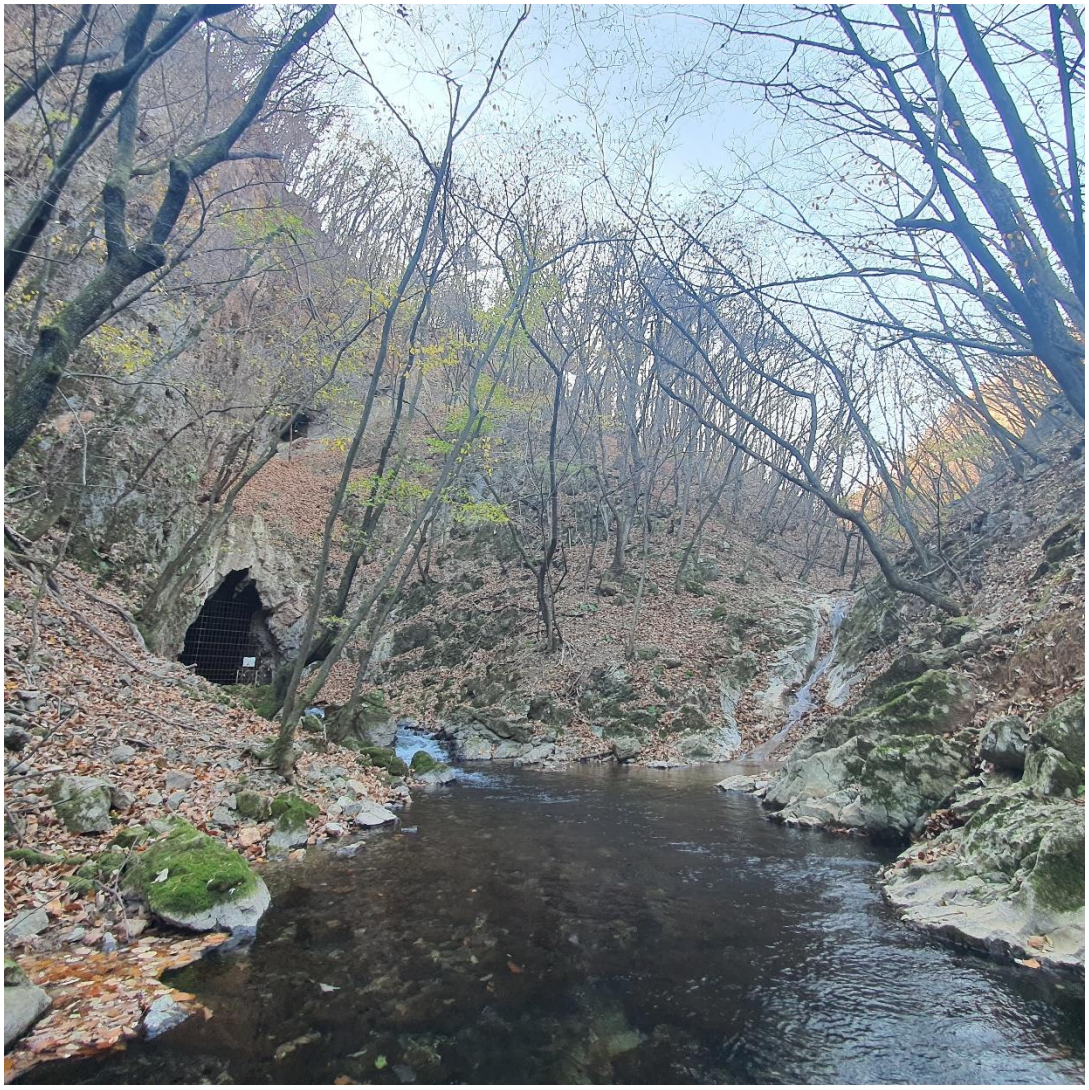
Entrance of the Puerto Princesa Subterranean River along the NW coastline of Palawan (photo: L. Piccini, La Venta Esplorazioni Geografiche).

South Korea

MIKAS – Sohan cave



The entrance of Sohan cave (Photo by Han-Sun Ryu)



Sohan cave spring forms Sohan stream (Photo by Han-Sun Ryu)



Plate for Sohan Valley Ecosystem and Landscape Conservation Area (Photo by Samcheok City)

State of Palestine

MIKAS-Al Faria



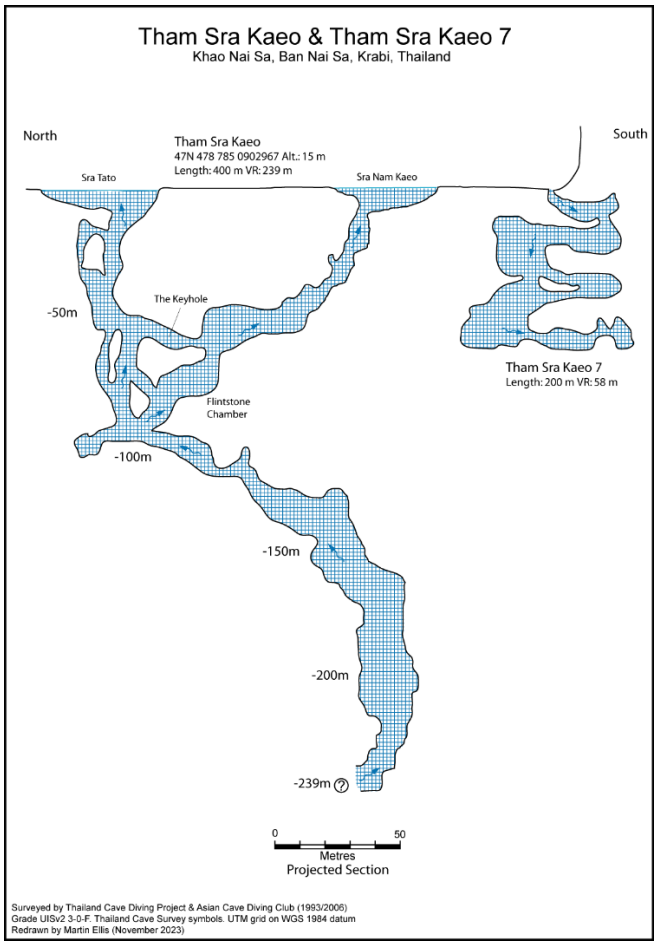
Al Faria spring niche (source: Palestinian Water Authority)



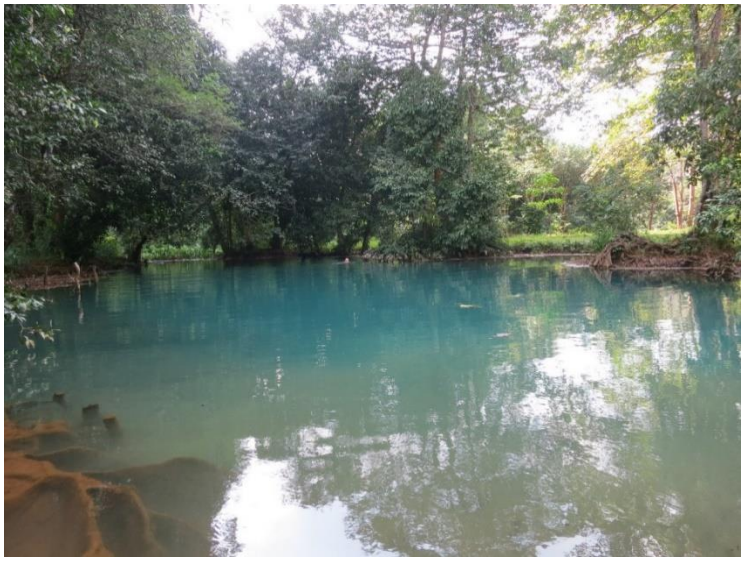
Seasonal Sanoor depression lake (source: Amer Marei)

Thailand

MIKAS – Sra Kaeo

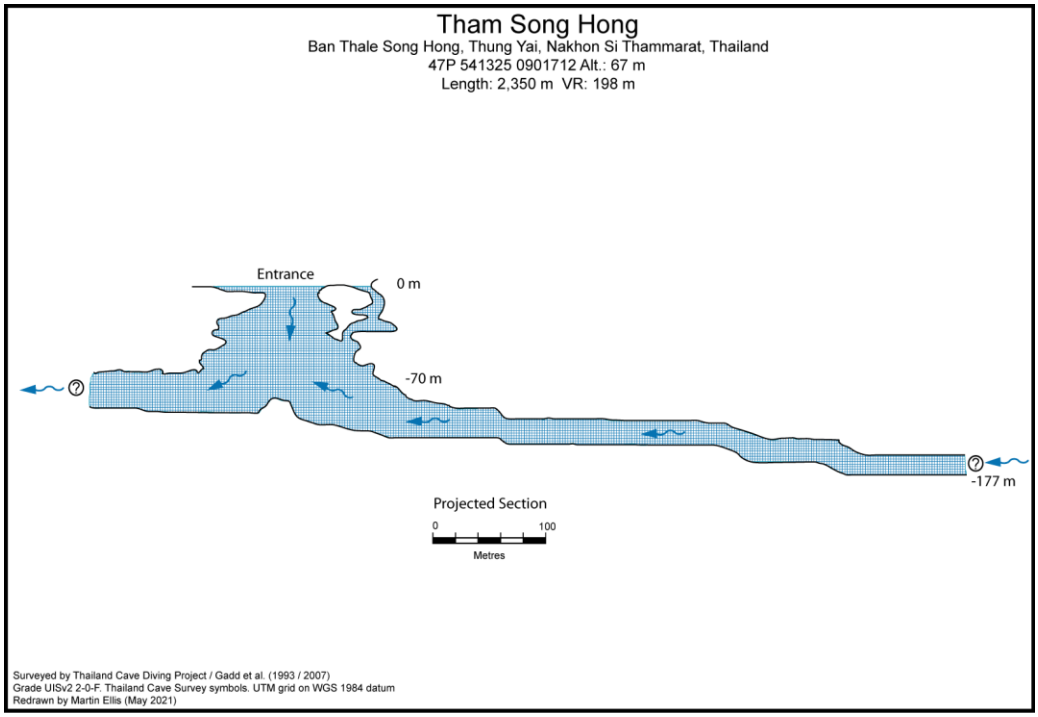


Cross-section of Sra Kaeo spring's deep siphon



Sra Kaeo resurgence pool – January 2013 (Photo by M. Ellis)

MIKAS – Thale Song Hong



Cross-section of Thale Song Hong spring's deep siphon



Thale Song Hong resurgence pool – October 2020 (Photo by M. Ellis)

MIKAS – Sra Khun Nam Morakhot



Thai rescue teams at the sacred Tham Luang Nang Non cave. (AP: Royal Thai Navy) Taken from: Thai cave rescue: Inside the sacred danger of Tham Luang - ABC News https://www.abc.net.au/news/2018-07-11/thai-rescue-inside-the-sacred-danger-of-thailand-caves/9979052?utm_campaign=abc_news_web&utm_content=link&utm_medium=content_shared&utm_source=abc_news_web



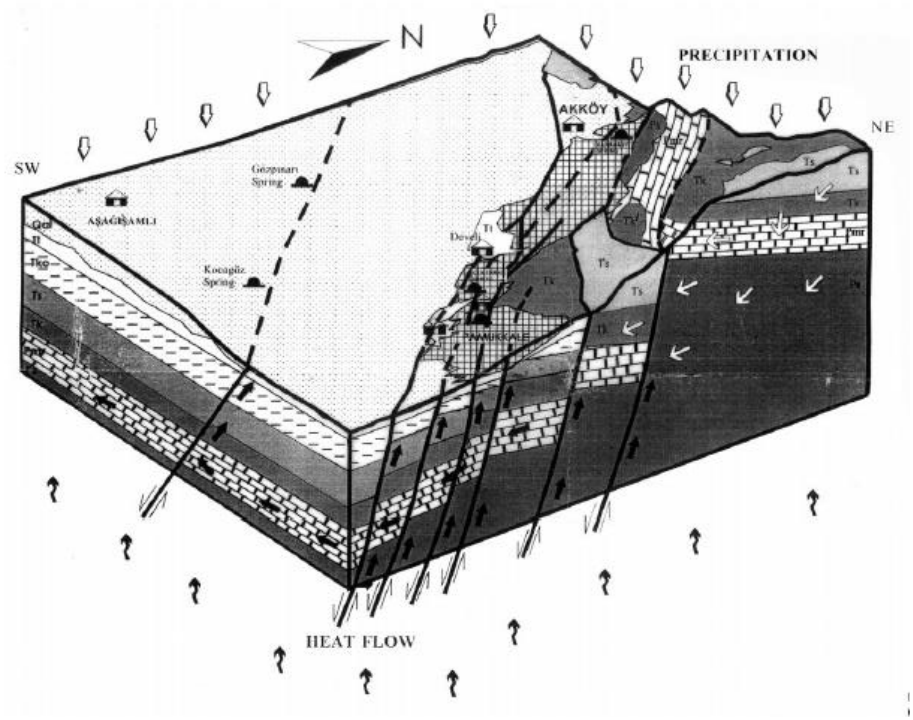
Personnel and equipment in the entrance chamber of Tham Luang cave during rescue operations during 26–27 June 2018. Screen capture from NBT news report (from Wikipedia, By NBT - YouTube: https://www.youtcom/watch?v=f7696l7oshs – View/save archived versions on archive.org and archive.today, CC BY 3.0, https://commons.wikimedia.org/w/index.php?curid=70568175)

Türkiye

MIKAS – Pamukkale



(A) Aerial photograph of the PGF and the location of springs and travertines (from Kele et al., 2011), (B) Terrace slope (image from www.pamukkale.gov.tr), self-built channel, proximal-slope and cascade travertines, (C) Self-built channel, distal slope and fissure-ridge travertines (Figure is taken from Alçiçek et al. 2019)



3-D conceptual model of the geothermal system of Pamukkale (from Şimsek et al. 2000)



Pamukkale travertines at the sunset (Photo is obtained from https://www.kulturportali.gov.tr/turkiye/denizli/gezilecekyer/pamukkale-hierapolis-antik-kenti)



Pamukkale travertines and numerous tourists at its terraces (photo Z.Stevanović)

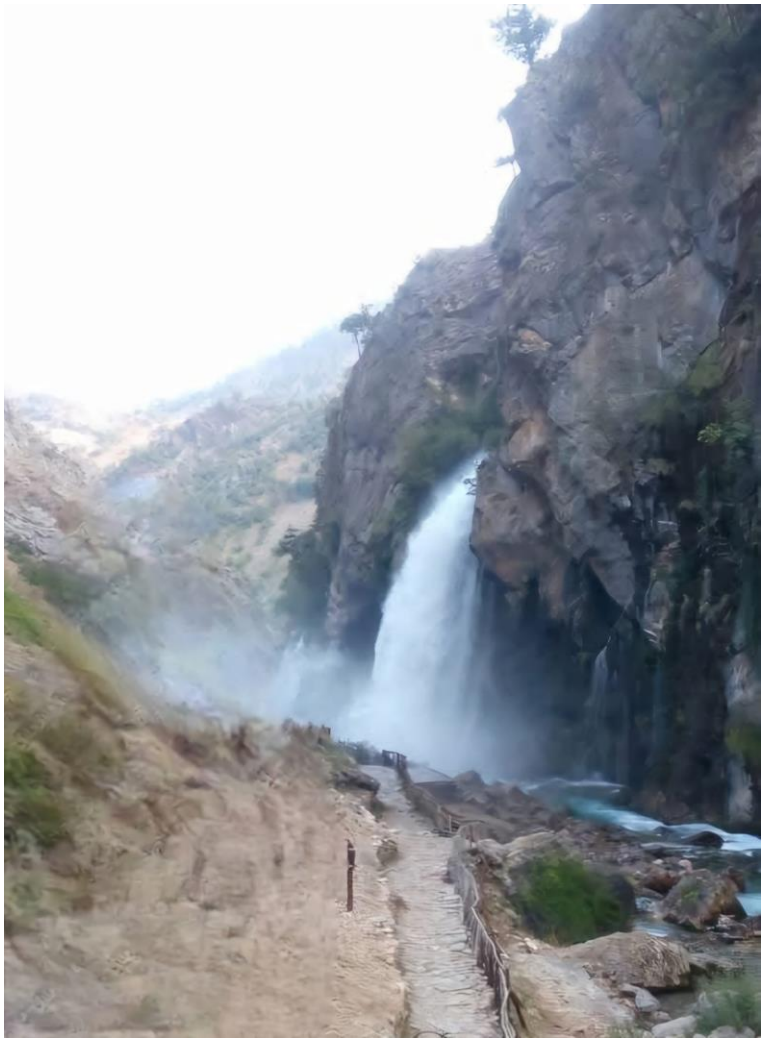


Hierapolis amphitheatre (on the terrace above Pamukkale) (photo Z.Stevanović)

MIKAS – Kapuzbaşı

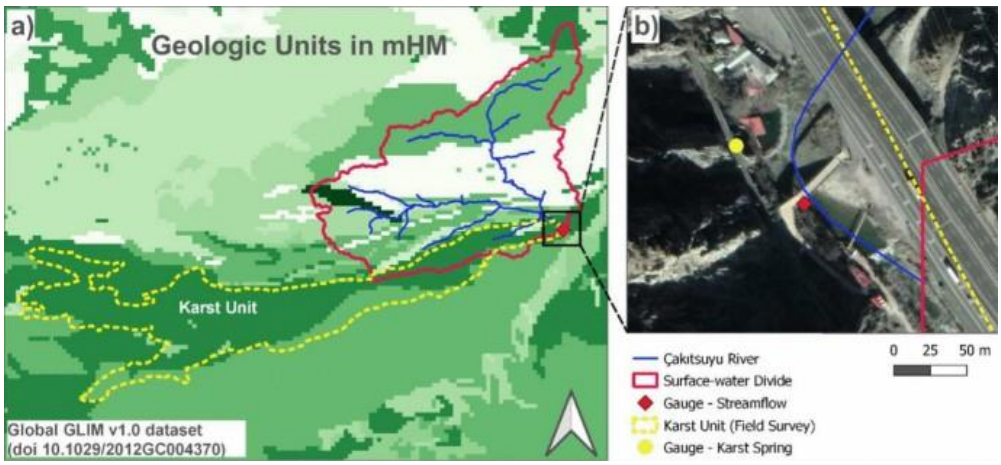


The Kapuzbaşi spring waterfall (photo was taken in 2017 by Uğur Akdeniz)

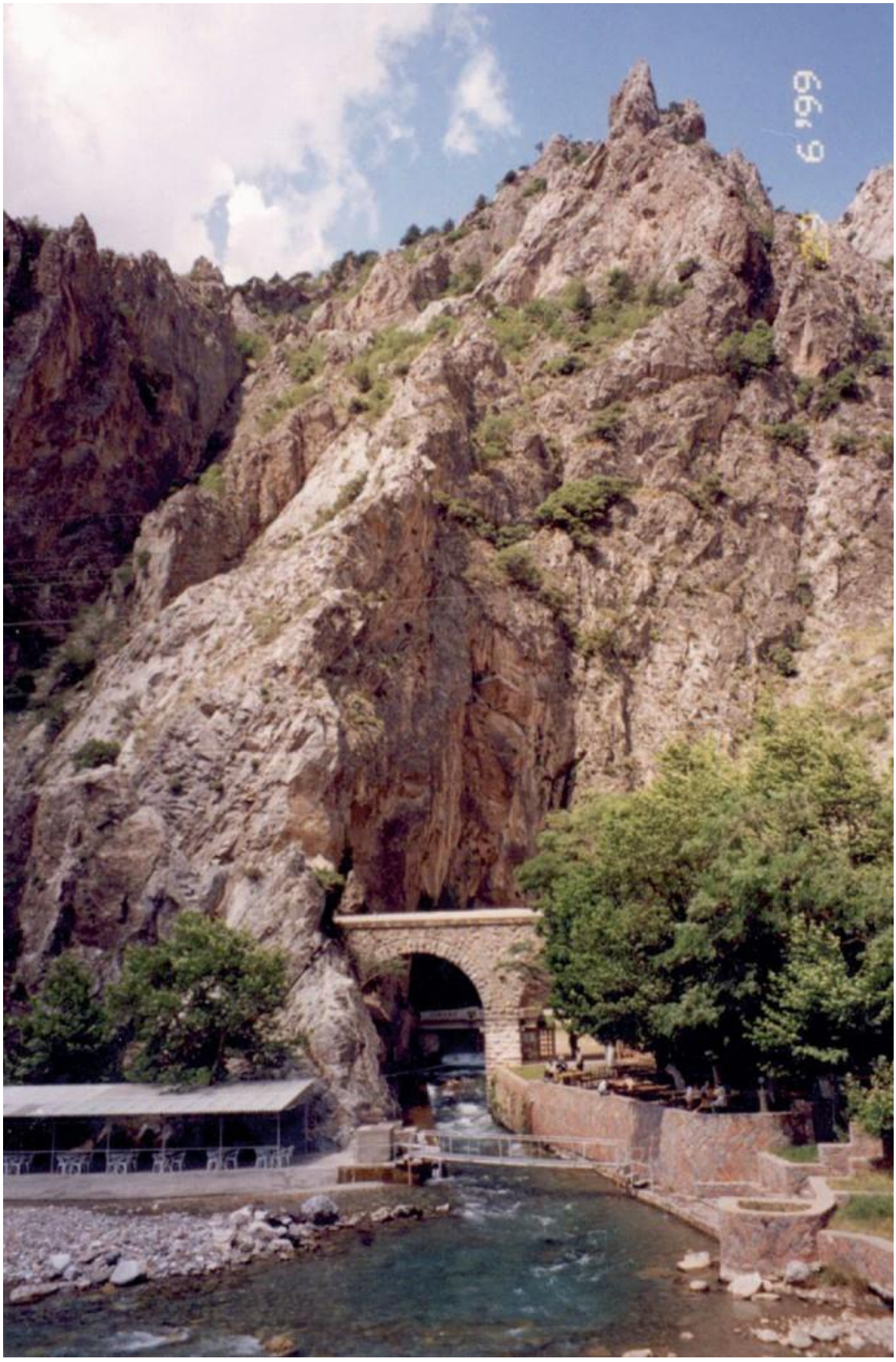


The Kapuzbaşi spring and Zamanti gorge downstream (photo was taken in 2017 by Uğur Akdeniz)

MIKAS – Şekerpinari



Map: (a) Karst aquifer boundaries of the Şekerpınarı karst spring according to Global GLIM v1.0 dataset, and (b) the discharge location of the karst spring (Kacar et al 2025).



The discharge of the Şekerpınarı karst spring (from Günay 2022).

NIKAS - Susuz Pınarbaşı



Susuz Pınarbaşı spring (photo taken by S.S. Çallı in 2017)

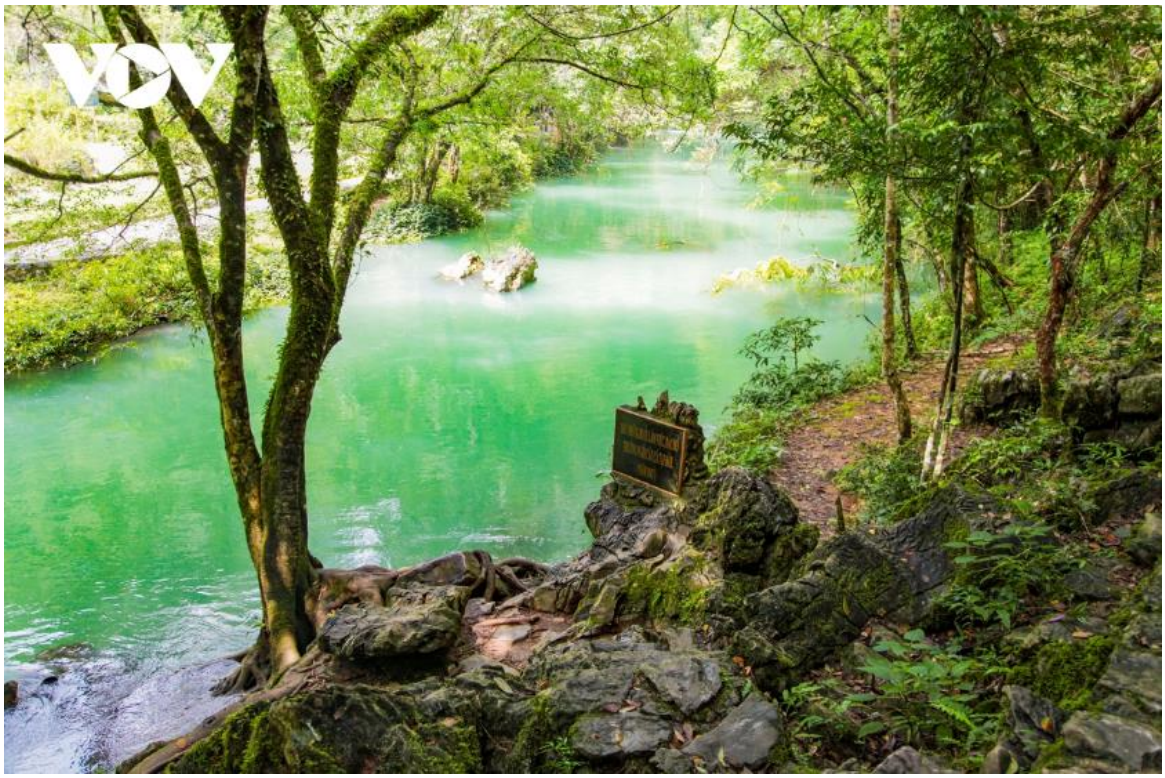


Susuz Pınarbaşı spring (photo taken by S.S. Çallı in 2017)

Viet Nam



MIKAS – Lenin spring



The spring landscape is at PacPo commune, HaQuang district, CaoBang province, Viet Nam (photo by VOV)



Water flow is from spring at PacPo commune, HaQuang district, CaoBang province, Viet Nam. (photo by VOV)



Traditional culture to take water from spring when new year coming. (photo by VOV)